PATENT SPECIFICATION

421,233

Application Date: Jan. 10, 1934. No. 946/34.

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Complete Specification Accepted: Dec. 17, 1934.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Display Stands, Correspondence Trays and the like.

I, JOHN WILLIAM DONALD COOK, of 29, Kenmure Mansions, Pitshanger Lane, Ealing, London, W. 5, a British subject, do hereby declare the nature of this invention to be as follows:—

This invention relates to display stands, correspondence trays or the like devices where it is desired that the carrier arm, receptacle or the like shall be displaceable around a pillar or upright. More particularly, the invention has reference to brackets for attachment to display stands, correspondence trays and the like of the kind which are used upon cylindrical or the like pillars grooved annularly at different heights, the brackets having upper and lower arms which are slotted to engage the pillars, and one of said slotted arms bearing upon the shoulder of an annular groove around the pillar.

The present invention has for object to provide an improved and inexpensive construction of bracket or clip which can in some cases be made entirely from pressings, stampings or mouldings and either in a single piece or in component parts, and will be better able to be fitted to trays or other articles to be supported, and further, will incorporate lengths of bearing surfaces which are applied directly against opposite sides of the pillar or upright.

According to the present invention, the material which would otherwise be wholly removed from the upper arm to form the slot therein, which slot enables the pillar to pass therethrough, is utilized in whole or in part to form one or more curved bearing surfaces integral with the said upper arm and adapted to make contact with the exterior of the pillar. These bearing surfaces do not, therefore, extend beyond the end of the slot remote from the load to be carried but are adjacent to the sides of the slot. The material which would otherwise be removed from the lower arm to form the slot therein is utilized in part to form one or more curved bearing surfaces designed to make contact with the exterior of the pillar, and these curved surface or surfaces will bear against the pillar in an opposite direction, or from an opposite side, to that of the one or more curved bearing surfaces upon the upper arm. The curved bearing surfaces in the lower arm are adjacent to the end of the slot near the load to be carried.

Instead of forming the curved bearing surface upon the lower arm, I may slot the lower arm (so that it engages the pillar in the manner of a fork) and provide the lower arm with an extension plate which is integral therewith but is carried back below the tray or other article to be supported, with a space between the lower arm and the extension plate, the material of the extension arm which would be removed to form the slot therein being utilized in part to form one or more curved bearing surfaces for the bottom of the bracket and integral with the bottom member. The last mentioned bearing surfaces are similar to those described for the lower arm of the bracket where the bracket has no extension plate.

The curved bearing surfaces are thus obtained from the material displaced to form the top and bottom slots; the bearing surface in the upper arm is downturned below the level of that arm whilst the bearing surface in the bottom member (lower arm or extension plate) is preferably similarly downturned but may be upturned.

The bracket may comprise a web uniting the upper and lower arms, the extension plate parallel with the lower arm, extending away from the pillar for a suitable distance but with a space between the extension and the lower arm as above stated. The web may be secured by screws, for example, to the end or side of a correspondence tray, carrier arm or the like. By forming the bearing surfaces integral with the bracket arms, or with the upper bracket arm and the extension plate, loose pieces are avoided and consequently the device works smoothly and without rattle.

Where the bracket or clip is made in more than one piece, the intermediate web may be made in two sections, the upper one of which carries one of the slotted arms and is secured to the tray or other

member to be carried. The lower section then comprises the lower arm and in this arrangement the upper section and the lower section must be separately attached by screws or otherwise to the tray or other article to be supported. Where the extension plate is employed, the lower section comprises the lower arm and the extension plate.

In some cases, the improved bracket, or each separate section thereof, may be provided with a dovetail member or like anchor adapted to be secured integrally in a tray, carrier arm or the like, made of metal, synthetic resin or similar material, during the casting or moulding of such receptacle or carrier arm.

The bearing surfaces in the upper arm and in the lower member are formed by utilizing the whole or part of the material which would otherwise be removed when the pillar-engaging slots are formed, such material being preferably downturned below the levels of the edges of the slots, and it is to be noted that there are no claws or tips projecting beyond the upper arm in a direction away from the pillar.

I find it advantageous to employ two short curved bearing surfaces on the upper arm, these being on opposite edges of the parallel-sided slot, and a single longer bearing surface upon the extension, this last mentioned bearing surface being set at the closed end of the slot, in opposition to those upon the upper arm.

As regards the upper arm, the material displaced when forming the slot may be partly rectilinear from the open end of the slot and then flared outwardly i.e. away from the slot to form the curved bearing surfaces. For the curved bearing surface or surfaces on the lower member, the material may be removed near the open end of the slot and the remainder suitably curved around the closed end of the slot.

The slot in the upper arm is of less width than the full diameter of the pillar but slightly wider than the reduced diameter of the grooved part, so that the upper arm will rest upon the shoulder of the annular groove around the pillar. Where no extension plate is used, the width of the parallel-sided slot in the lower arm is such as to engage freely the exterior surface of the pillar. Where the extension plate is employed it is of such width as to allow the said slotted plate to straddle the pillar between the annular grooved portions of the pillar and the lower bracket is similarly slotted.

Any desired number of annular grooves may be formed upon the pillar and two or more superposed brackets may be fitted to each pillar. The annular grooves may be square-shouldered or be rounded, or the shoulder may be bevelled, if desired.

A pedestal or base may be fitted to the pillar in the usual manner but, if desired, a clamp may be affixed to the lower end of the pillar so that the latter can be secured to a table or the like.

By means of the present invention, material which would otherwise be wasted is employed to at least some extent to form the bearing surfaces and the bracket can be made of greater strength and more rigid for the same weight of material.

The bracket or its component parts can be made of metal, synthetic resin or the like material or partly of metal and partly of synthetic resin or the like. For example, the upper arm and either the lower arm or the extension plate, can be made of synthetic resin with metal inserts to form the slots, such inserts being provided integrally with the curved bearing surfaces.

Dated this 10th day of January, 1934.

For the Applicant,
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London, E.C. 4.

COMPLETE SPECIFICATION.

Improvements in and relating to Display Stands, Correspondence Trays and the like.

I, JOHN WILLIAM DONALD COOK, of 29, Kenmure Mansions, Pitshanger Lane, Ealing, London, W. 5, a British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to display stands, correspondence trays or the like devices where it is desired that the carrier arm, receptacle or the like shall be displaceable around a pillar or upright.

The invention has reference to brackets for such display stands, correspondence trays and the like used upon cylindrical or similar pillars, the brackets being of the kind having upper and lower arms which are slotted to engage the pillar, and one of said slotted arms bearing upon

the shoulder of an annular groove around the pillar.

It is already known as described in specification 299,109 to provide a bracket of this kind with an upper fork arm or slotted arm having at its outer end downwardly-turned tips to engage the shoulder of the pillar and to claw or bear against the exterior of the pillar, and with a lower arm having an upstanding tip to bear against the exterior of the pillar on the opposite side, but such downwardly-depending tips were not within the length of the slot but were beyond the open end of the slot. They were, therefore, not shielded or protected by the material of the slotted arm and they were conspicuous.

It is also known to provide the upper and lower arms of a bracket of the kind described with rollers or the like friction-reducing devices which bear with rolling contact against the exterior of the pillar.

The object of the present invention is to provide an improved and inexpensive construction of bracket which can in some cases be made entirely from pressings, stampings or mouldings and either in a single piece or in component parts, and will be better able to be fitted to trays or stands to be supported, and further, will incorporate curved bearing surfaces which are wholly within the length of the slot and so protected and inconspicuous. In some cases, the bracket may be moulded integral with the tray or stand.

According to one form of the present invention, a bracket of the kind described is so constructed that the material which would otherwise be removed from the upper arm of the bracket to form the slot therein, is utilized in whole or in part to provide one or more curved bearing surfaces integral with the said upper arm and extending inwards from the open end of the slot and adapted to make contact with the exterior of the pillar. In another form of the invention, the upper slotted arm incorporates lengths of curved bearing surface engaging with the exterior of the pillar, said lengths of bearing surface being integral with the material of the arm and diverging from the straight sides of the slot so as to engage the said pillar.

Two curved bearing surfaces are preferably arranged to diverge from the sides of the slot and are continuations of straight lengths of the material of the arm, said straight lengths extending along the slot from the mouth thereof, the two curved bearing surfaces embracing the pillar intermediately of the length of the slot and from the side remote from the load.

In this way a bracket is obtained which is free from loose pieces, free from projections beyond the open end of the slot and gives a lengthy bearing contact with the pillar.

The invention is hereafter described with reference to the accompanying drawings, in which:—Fig. 1 is an elevation showing a corresponding tray provided with one form of the improved bracket made of metal and mounted on a pillar. Fig. 2 is a sectional elevation, on a larger scale, of the bracket shown in Fig. 1. Fig. 3 is a plan of the underside of the upper part of Fig. 2. Fig. 4 is a plan view of Fig. 2 whilst Fig. 5 is a plan of the underside of the lower part of Fig. 2, and Fig. 6 is a side view of Fig. 2.

Figs. 7—11 relate to metal cores or inserts to be moulded into a bracket of synthetic resin or like mouldable material. Fig. 7 is a plan from the underside of a core for the upper arm and Fig. 8 is a section of Fig. 7 on line 8—8. Fig. 9 is a plan of a core for the lower arm, Fig. 10 being a section on line 10—10 and Fig. 11 is a side view of Fig. 9.

Fig. 12 is a plan from the underside (similar to Fig. 3) showing the curved bearing surfaces formed integrally with ribs in moulded material.

Figs. 13 to 16 relate to a bracket moulded with a tray. Fig. 13 is a side elevation and Fig. 14 is a plan from the underside of the top of part of Fig. 13. Fig. 15 is a plan of Fig. 13 and Fig. 16 is a section on line 16—16 of Fig. 13. Figs. 14 and 16 are on an enlarged scale.

In Fig. 1, I have shown a cylindrical pillar *a* grooved annularly to form short stems a^1 and shoulders a^2 and erected on a support such as a table *b* by means of a screw-clamp *c*, such construction being well known. A correspondence tray *d* is provided at one end with the improved bracket *e*, said bracket engaging the pillar *a* by slotted upper arm e^1 and slotted lower arm e^2.

In this arrangement, the bracket *e* is is so constructed that the metal which would otherwise be wholly removed from the upper arm e^1 to form the slot therein is utilized in whole or in part to form one or more curved lengths of bearing surface *f f* integral with the upper arm and adapted to make contact with the exterior of the pillar. These surfaces *f f* may be formed by slitting and bending or pressing the metal. The width of the slot *s* in the upper arm e^1 is such that it fits easily upon the reduced stem a^1 but the curved lengths of bearing surface *f f*

depend, and make comparatively lengthy contact with the exterior of the pillar *a* below the shoulder a^2. The metal displaced from the arm e^1 to form the slot *s* is clearly shown in Figs. 2 and 3 as dependent flanges or members *f f* and f^1 f^1, the curved lengths *f* being divergent inwardly of the slot *s* and the straight lengths f^1 being parallel with the sides of the slot *s*. The bearing surfaces *f f* are rendered divergent by the slits f^2 in the metal. The height of the annular groove forming the stem a^1 is such that the depending flanges *f f* can be passed across the groove and the arm and flanges then lowered to engage the shoulder a^2.

These bearing surfaces *f f* do not, it will be noted, extend beyond the end of the slot *s* remote from the tray *d* but are adjacent to the sides of the slot *s* and both portions *f f* and f^1 f^1 extend inwardly from the open end of the slot so that there is no projection beyond the mouth of slot *s*.

The upper arm e^1 is secured to the lower arm e^2 by a web which can be held against the head of the tray *d* by screws, as indicated in Fig. 1.

The metal which would otherwise be entirely removed from the lower arm e^2 to form the slot s^1 therein, is utilized in part to form one or more curved members acting as a bearing surface designed to make contact with the exterior of the pillar *a* and in an opposite direction, or from an opposite side, to the dependent surfaces *f f*. The bearing surface on the lower arm e^2 is not shown in the drawings but its arrangement will be understood from the description of the bearing surface upon the extension plate e^3 which now follows.

In Figs. 1, 2, 4, 5 and 6 there is clearly shown an extension plate e^3 which is integral with the web and the arms e^1 e^2 and is bent or carried back below the tray, with a space between the lower arm e^2 and the extension plate. The bend between the arm e^2 and the plate e^3 is slotted at s^1 to allow the bend to straddle the pillar *a*. The metal which would be removed to form the slot s^1 in the lower arm e^2 and plate e^3 is utilized in part e.g. by slitting and pressing or bending operations, to form one or more curved bearing surfaces for the bottom of the bracket and integral with said bracket. This bearing surface is shown as a dependent curved member *g* shaped to conform with and bear against the exterior of the pillar *a*. The plate e^3 may be secured by a screw to the base of the tray *d*.

By forming the bearing surfaces *f f* and *g* integral with the bracket arms e^1 e^2 or with the upper arm e^1 and the extension plate e^3, loose pieces are avoided and consequently the device works smoothly and without rattle. The tray *d* can be swung horizontally and smoothly to any desired position around the pillar *a*.

Instead of making the bracket *e* in one piece, it may obviously be made in sections, the upper one carrying the arm e^1 and being secured to the tray or other article by, for instance, screws. The lower section then comprises the lower arm e^2, or the arm e^2 and plate e^3, which must be separately attached by screws or otherwise to the article to be supported.

In the modification shown by Figs. 7—11, the bracket is formed by moulding metal cores in material such as synthetic resin or the like leaving the slot and metal bearing surfaces *f g* exposed. The core *h* for the upper arm is provided with a dovetail anchor h^1 and the core *i* for the lower arm e^2 is provided with a dovetail anchor i^1, these anchors being firmly embedded in the material of the tray or other article. Instead of synthetic resin, these anchor-fitted cores or inserts can be secured in cast metal.

As shown in Fig. 12, I may make the curved bearing surfaces *f f* of moulded material integral with the upper arm e^1 and tray *d* and united with strengthening ribs *j* formed upon the tray. Thus, instead of making the curved bearing surfaces *f f* of, for instance, metal, as shown in Fig. 3, they may be of moulded material such as synthetic resin and integral with the tray.

In the similar arrangement shown in Figs. 13—16, the tray *d* and bracket arms are moulded in synthetic resin or the like and are therefore integral. The upper arm e^1 of the bracket-forming portion is connected by the ribs *j j* with the lower arm e^2. Part of the material forming the upper arm is, however, displaced by dies or otherwise at *k* to form a part-circular recess, the roof *l* of which rests upon part of the annular shoulder a^2 of the pillar, after the stem a^1 has been passed up the slot *s*. This arrangement provides the curved bearing surface k^1 formed or left by the counterbore concentrically with the closed end of the slot *s* and portions of this bearing surface k^1 diverge from the lower or under portions of the straight sides of slot *s*. The lower arm e^2 is slotted at s^1 and the closed end of slot s^1 (which closed end is preferably semi-circular) bears against the exterior of pillar *a*. The weight of the tray draws these curved surfaces k^1 against the pillar.

Having now particularly described and

ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

(1) A bracket of the kind described, for use with a pillar-engaging display stand, correspondence tray or the like, characterized by this that the material which would otherwise be removed from the upper arm of the bracket to form the slot therein is utilized in whole or in part to provide curved bearing surfaces integral with the said upper arm and extending inwards from the open end of the slot, and adapted to make comparatively lengthy contact with the exterior of the pillar.

(2) A bracket of the kind described, for a pillar-engaging display stand, correspondence tray or the like, characterized by this that the upper slotted arm incorporates lengths of curved bearing surface engaging with the exterior of the pillar, said lengths of bearing surface being integral with the material of the arm and diverging from the straight sides of the slot so as to engage the said pillar.

(3) A bracket, according to claim 2, in which two curved bearing surfaces are arranged to diverge from the sides of the slot and are continuations of straight lengths of the material of the arm, said straight lengths extending along the slot from the mouth thereof, the two curved bearing surfaces embracing the pillar intermediately of the length of the slot and from the side remote from the load.

(4) A bracket having an upper arm according to claim 1, 2 or 3, provided with a lower arm in which the material which would otherwise be removed to form the slot, is utilized in part to form one or more curved bearing surfaces which contact with the exterior of the pillar on a side opposite to that with which the bearing surfaces on the upper arm make contact.

(5) A metal bracket, according to claim 1, 2 or 3, adapted to be attached to a tray or the like, the slot in the upper arm of said bracket being provided at its sides with downturned metal flanges the inner portions of which remote from the open end of the slot are separated from the arm and curved away from the slot in a divergent manner to embrace part of the exterior of the pillar.

(6) A metal bracket, according to claim 4 or 5, in which the lower arm is provided with an extension plate adapted to be bent back below the tray or the like to be supported, said lower arm and extension plate being slotted to engage the pillar and the extension plate having a downwardly-directed curved bearing surface at the inner or closed end of the slot.

(7) A bracket, according to claim 2 or 3, and claim 4, moulded in synthetic resin or the like or cast integrally with the display stand, correspondence tray or the like, the upper arm and the lower arm having anchor-fitted metal cores or inserts to form the slots, which inserts are provided integrally with the curved bearing surfaces.

(8) A metal bracket according to claim 6, moulded in synthetic resin or the like or cast integrally with the display stand, tray or the like, the upper arm and the extension plate having anchor-fitted metal cores or inserts shaped to form the slots and the curved bearing surfaces.

(9) A bracket, according to claim 2, integral with a tray and made of cast or moulded material, in which the total length of curved bearing surface for the upper arm is formed or left by displacement of the material so that a roof portion rests upon the annular shoulder of a groove in the supporting pillar, whilst the said curved bearing surfaces and also the inner end of the slot in the lower arm, make contact with the exterior of the pillar.

Dated this 25th day of July, 1934.

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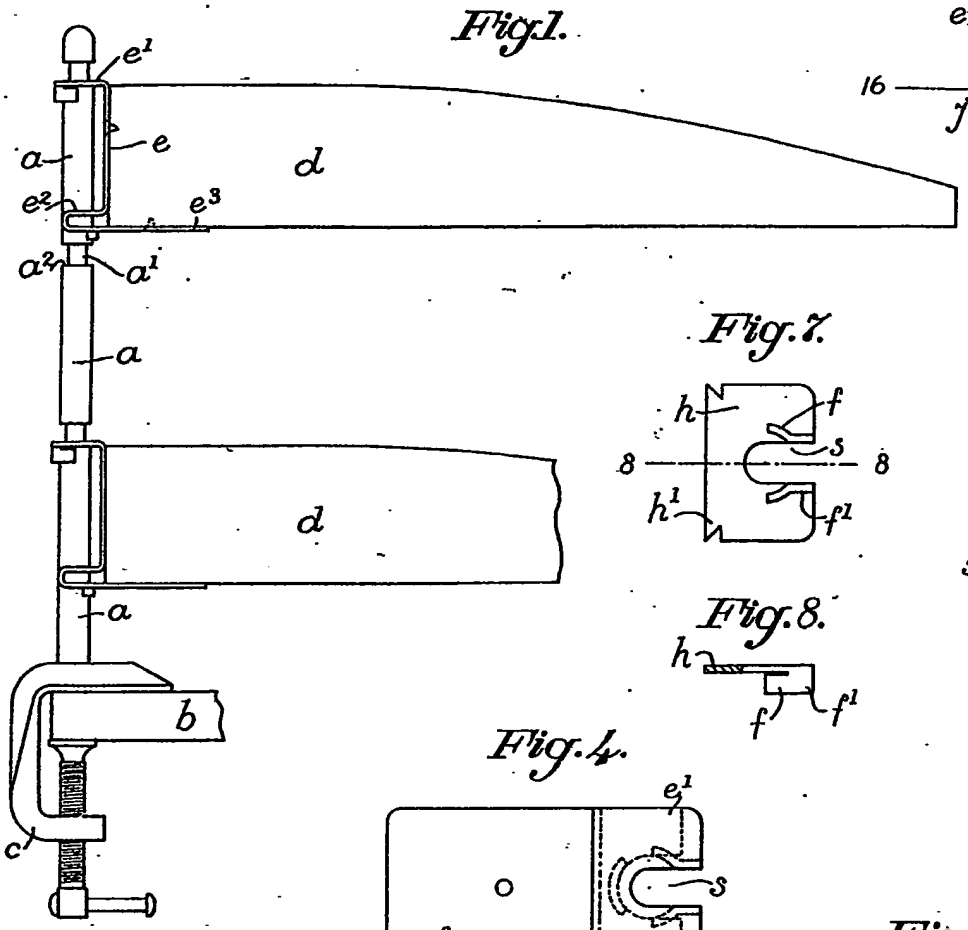
73A, Queen Victoria Street,
London, E.C. 4.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1935.

Fig. 1.



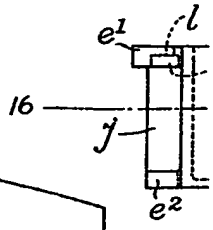


Fig. 7.

Fig. 8.

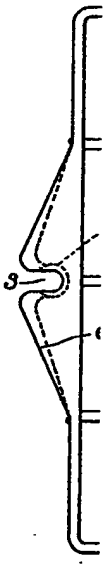


Fig. 4.

Fig. 9.

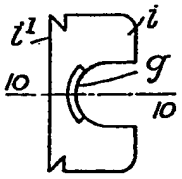


Fig. 3.

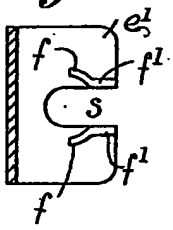


Fig. 2.

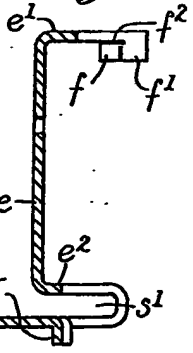


Fig. 5.

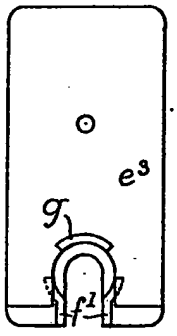


Fig. 6.

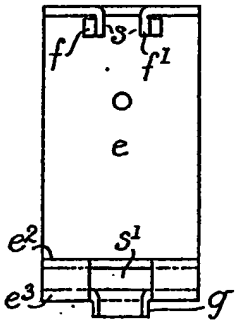


Fig. 10.

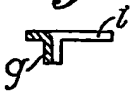


Fig.13.

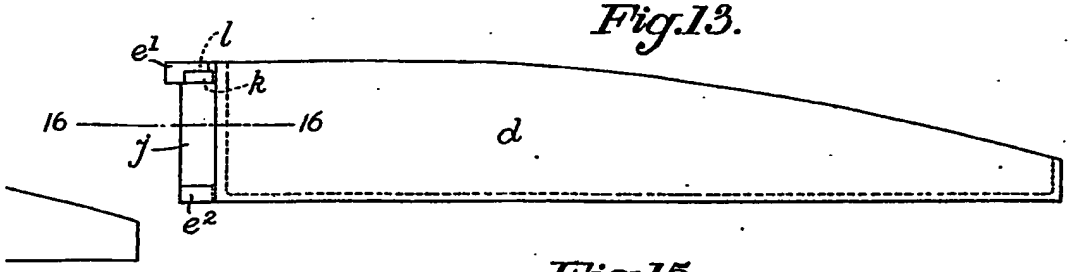


Fig.15.

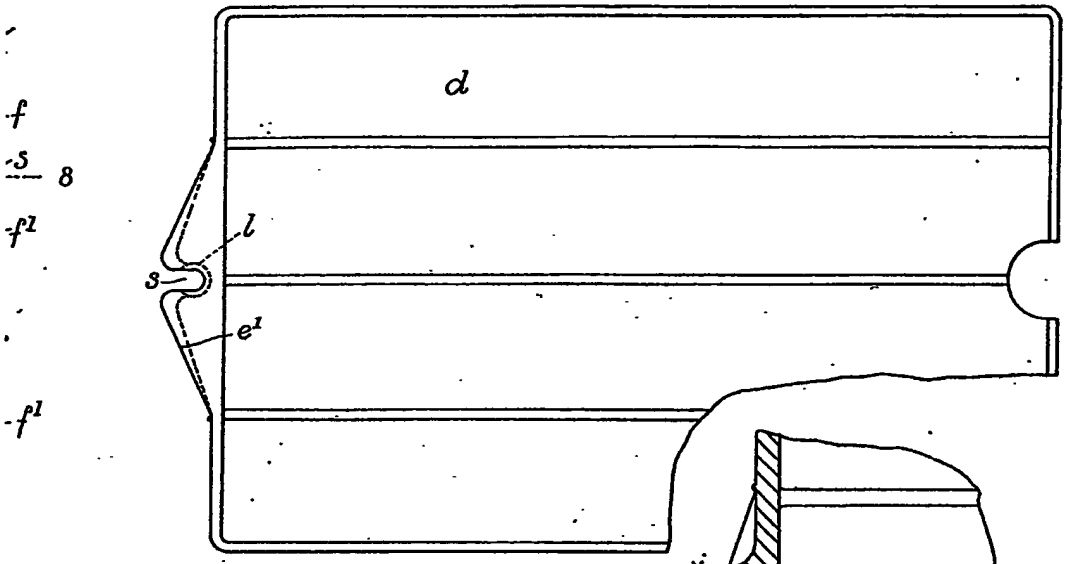


Fig.14.

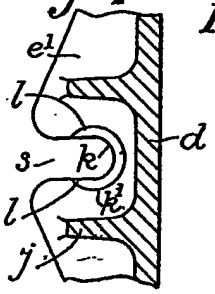


Fig.16.

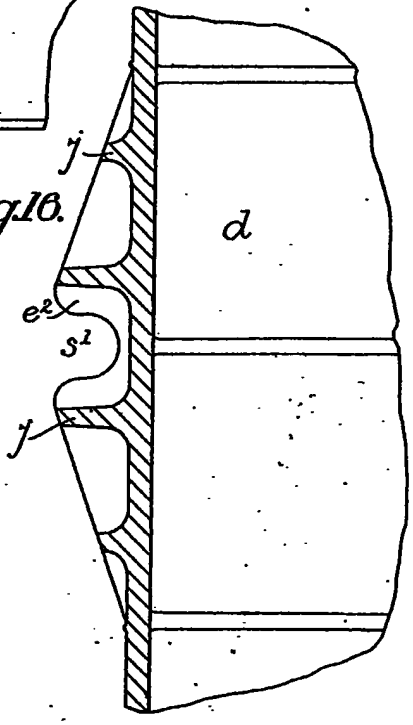


Fig.9.

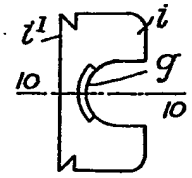


Fig.11.

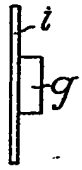


Fig.10.

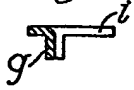
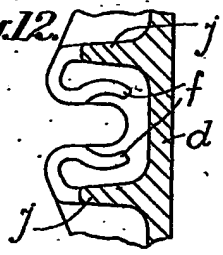


Fig.12.



Malby & Sons, Photo-Lith.

Fig.1.

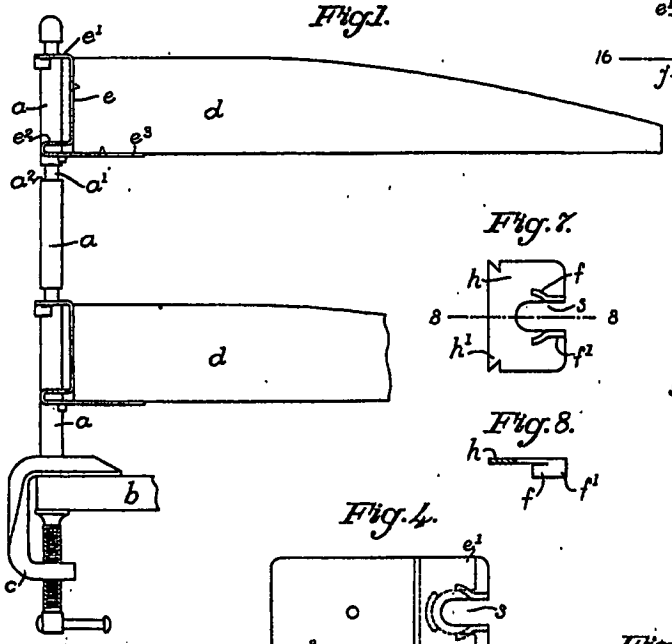


Fig.13.

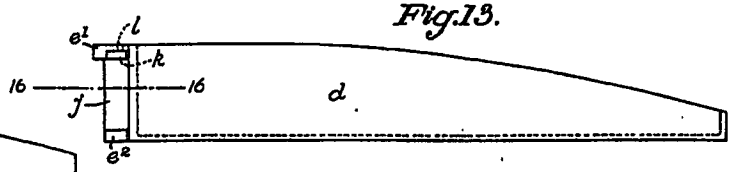


Fig.7.

Fig.8.

Fig.4.

Fig.16.

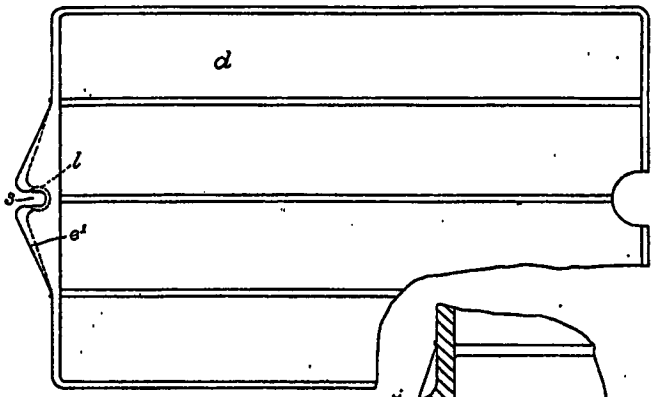


Fig.3.

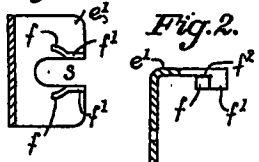


Fig.2.

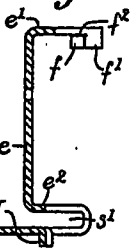


Fig.5.

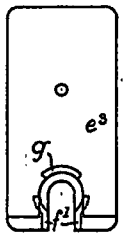


Fig.6.

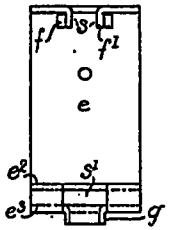


Fig.9.

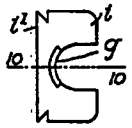


Fig.11.

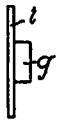


Fig.14.

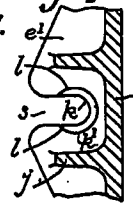


Fig.10.

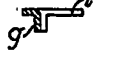
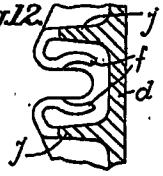


Fig.12.



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